

EIGHT NEW SPECIES OF *IPOMOEA* AND *QUAMOCLIT* FROM MEXICO

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As part of the results of studies in the genus *Ipomoea* and related genera of Mexico and Central America, I propose the following eight new species, seven in *Ipomoea* and one in *Quamoclit*.

Ipomoea teotitlanica McPherson, sp. nov.

Fig. 1.

Ab aliis speciebus arboreis combinatione caulium tomentosorum cum foliis orbiculatis supra pubescentibus infra tomentosus, sepalis 11-16 mm longis in pagina abaxiali pubescentibus in pagina adaxiali interdum pubescentibus, corollis glabris distinguenda.

"Small trees with gray trunks" (collector's notes). Young stems somewhat ridged, densely tomentose with soft, curled hairs about 0.5 mm long; older stems more strongly ridged to much roughened, glabrescent. Leaf blades (immature?) round in outline, 3-4 cm in diameter, obtuse at the apex, cordate at the base, bearing 7-8 lateral veins on each side of the midrib, pubescent on the upper surface with very slender, more or less appressed hairs 0.3-1.0 mm long, much more densely pubescent on the lower surface (which is completely obscured) with similar hairs; petioles 0.8-1.5 cm long, densely tomentose like the stem. Inflorescences axillary or terminal, each cyme consisting of 1 flower, these reduced cymes borne on shortened, leafless, tomentose branches up to 5 mm long. Peduncles about 1 mm long, tomentose. Bracts broadly ovate, 1-1.5 mm long, 1 mm wide, tomentose on the abaxial surface and centrally on the adaxial surface, caducous. Pedicels 10-15 mm long, ridged, slightly thickened distally, tomentose and glabrescent. Sepals elliptical to broadly ovate, subequal, 11-16 mm long, 7-10 mm wide, obtuse at the apex, coriaceous, at least the outer sepals tomentose over the abaxial surface and partially so on the adaxial surface, the curled hairs up to about 0.7 mm long. Corolla funnelliform, 5.5-6.5 cm long, about 4 cm in diameter across the limb, "light clear yellow" (collector's notes), glabrous, twisted in bud. Stamens included, 2.8-3.8 cm long, the anthers 8 mm long, the basal hairs up to 1 mm long. Style about 4.5 cm long, the stigmas 2, globose, about 1.5 mm in diameter. Capsule unknown.

OAXACA: Tambor, about 17 miles west of San Antonio, District of Teotitlán, limestone canyon, 25 Nov 1967, *H. S. Gentry 22475* (GH, holotype).

Amongst the other Mexican tree species, *Ipomoea teotitlanica* is probably most nearly related to *I. murucoides*, which it resembles in leaf pubescence, sepal pubescence and texture, and in the tendency of the sepals to lack hairs on the adaxial surface.

Ipomoea praecox McPherson & Meacham, sp. nov.

Fig. 2.

Ab aliis speciebus volubilibus pariter corollis maxime pubescentibus gaudentibus combinatione anthesis praecicis cum inflorescentiis aggregatis et floribus rufis distinguenda.

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FIG. 1. *Ipomoea teotitlanica*, drawn from the type by Jan McCarthy. Flowering branch X 0.6; opened flower X 1.

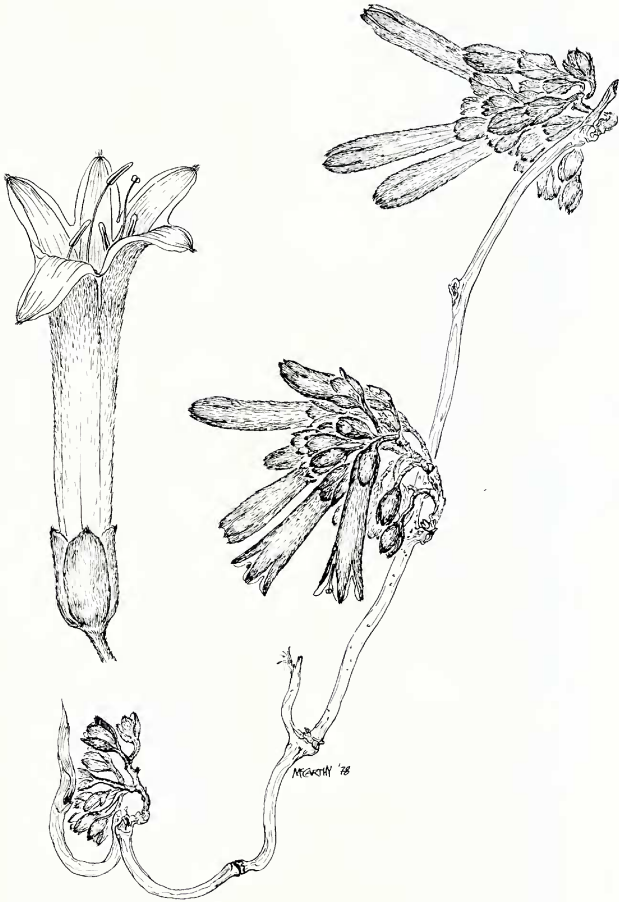


FIG. 2. *Ipomoea praecox*, drawn from the type by Jan McCarthy. Flowering branch $\times 0.8$; flower $\times 2$.

Woody vine 1–2 m long. Young stems smooth, pubescent with soft hairs about 0.5 mm long; older stems ridged and roughened, partially glabrescent. Leaves absent during flowering, unknown. Inflorescences axillary or terminal, each cyme consisting of 1–2 flowers, these reduced cymes clustered in groups of up to 27 flowers on reduced, densely pubescent branches 1–2 cm long. Peduncles 1–2 mm long, pubescent. Bracts lanceolate, 3–5 mm long, about 1 mm wide, pubescent. Pedicels 4–8 mm long, slender, densely pubescent. Sepals elliptical to ovate, equal, 7–8.5 mm long, 4–5 mm wide, broadly obtuse at the apex, subcoriaceous, reddish, abaxially pubescent, the hairs about 0.5 mm long and often forming a small tuft at the apex of the sepal. Corolla salverform, the tube 3.5–4 cm long, 0.5–0.7 cm in diameter at the base of the limb, the lobes of the limb 5–10 mm long, obtuse at the apex; corolla purple-red, abaxially pubescent except at the very base with hairs 0.5–0.9 mm long, not twisted in bud. Stamens slightly exerted, 3–4 cm long, the anthers 3 mm long. Style about 3.5 cm long, the stigmas 2, globose, about 0.75 mm in diameter. Capsules unknown.

OAXACA: Limestone hillside southwest of Sola de Vega, near 16°29' N, 96°58' W, elev. ca 1700 m, 5 Dec 1962, *Moran 10095* (UC, holotype).

This species belongs to a group of which *Ipomoea jalapa* is typical.

***Ipomoea pruinosa* McPherson, sp. nov.**

Fig. 3.

Ab aliis speciebus volubilibus pariter corollis maxime pubescentibus gaudentibus combinatione anthesis praecicis cum inflorescentiis aggregatis et floribus albis distinguenda.

Woody vine 3–5 m long. Young stems smooth, tomentose, the hairs soft, curled, 0.1–0.25 mm long; older stems somewhat roughened, glabrescent, revealing a finely granular, waxy coating, which in turn is often absent from the oldest stems. Leaves absent during flowering and fruiting, unknown. Inflorescences axillary and terminal, each cyme consisting of 1–4 flowers, these cymes gathered in groups of up to 10 flowers at the ends of often angular branches. Peduncles 1.5–6 mm long, tomentose. Bracts caducous, unknown. Pedicels 2–9 mm long, grooved, thickened distally, tomentose. Sepals ovate, subequal (the outermost 4–6 mm long, 3–4 mm wide, the innermost 5–7.5 mm long, 5–6.5 mm wide), obtuse or obtuse-mucronate at the apex, often somewhat asymmetrical, often ridged, coriaceous with thinner, often reddish margins, tomentose abaxially and occasionally adaxially. Corolla more or less funnelliform, 6.5–9 cm long, 1–1.5 cm in diameter at the base of the limb, 4.5–7 cm in diameter across the limb, white with pale red interplical areas, tomentose over the entire surface excepting the plical areas and the basal 5–10 mm, twisted in bud (sometimes only slightly so). Stamens included, 3–4.5 cm long, the anthers 8–10 mm long, the basal hairs about 0.75 mm long. Style 3.5–4.5 cm long, the basal 1–4 mm persistent in fruit, the stigmas 2, globose, about 1 mm in diameter. Capsules (immature) 2-locular, 4-valved, the valves 12–15 mm long, the seeds (immature) 4, pubescent along the dorsal margins, the hairs soft, at least 5 mm long.

GUERRERO: Deciduous forest, rocky hills 3–5 km on road from Casa Verde to Xochipala, with *Bursera*, *Cordia*, *Haematoxylum*, *Pseudosmodium*, about 35 km north-northwest of Chilpancingo, elev 1000–1150 m, 2 Feb 1965, *McVaugh 22192* (MICH, holotype).

This species, like *Ipomoea praecox*, belongs to a group of which *I. jalapa* is typical.

***Ipomoea pseudoracemosa* McPherson, sp. nov.**

Fig. 4.

Ab aliis speciebus volubilibus pariter sepalis concavis coriaceis et corolla recta (non torta) in aestivatione gaudentibus combinatione anthesis praecicis cum cymis unifloris aggregatis distinguenda.



FIG. 3. *Ipomoea pruinosa*, drawn from the type by Jan McCarthy. Flowering and fruiting branches X 1.2.



FIG. 4. *Ipomoea pseudoracemosa*, drawn from the type by Jan McCarthy. Flowering branch $\times 1.1$; fruiting cluster $\times 0.9$; seed $\times 3$.

Woody vine 2–5 m long. Young stems smooth or somewhat roughened, glabrous or pubescent, the hairs 0.3–0.6 mm long, straight or curled, usually appressed, the basal cell slightly swollen; older stems ridged and roughened, often glabrescent. Leaves absent during flowering and fruiting, unknown. Inflorescences axillary or terminal, each cyme consisting of 1 flower, these reduced cymes borne in groups of 2–10 flowers on shortened, occasionally branched, tomentose shoots 2–30 mm long, the leaves of these reduced stems represented by caducous, triangular, tomentose bracts up to 4 mm long, 1.5 mm wide. Peduncles 0.5–4 mm long, tomentose, sometimes glabrescent. Bracts triangular, 1.5–2.5 mm long, 1–1.7 mm wide, glabrous adaxially, glabrous or distally pubescent abaxially, caducous. Pedicels 5–17 mm long, ridged, slightly thickened distally, glabrous. Sepals round to somewhat flattened in outline, unequal (the outermost 2.5–4 mm long, 3–4 mm wide, the innermost 4.5–6.5 mm long, 5–7 mm wide), broadly obtuse or shallowly emarginate at the apex (sometimes mucronate), concave, coriaceous over those portions exposed in bud, thinner and often reddish on the margins and over those portions shielded in bud, glabrous throughout or sparsely pubescent near the apex of the abaxial surface, the hairs straight or curled, up to 0.5 mm long. Corolla funnelform, 5–7 cm long, 3.5–6 cm in diameter across the limb, white, the tube and interperical regions greenish or pale reddish abaxially, glabrous, not twisted in bud. Stamens included, 1.8–3.5 cm long, the anthers 4–6 mm long, the basal hairs up to 1 mm long. Style 3–4 cm long, the stigmas 2, globose, about 1 mm in diameter. Capsule 2-locular, 4-valved, the valves 12–13 mm long, the seeds 4, pilose on the dorsal margins with hairs 7–9 mm long.

JALISCO: Dry brush-covered mountainsides 6.5 miles northeast of Autlán, near highway pass, with *Bursera*, *Heliocarpus*, *Acacia*, elev. 925 m, 24 Nov 1959, *McVaugh & Koelz 1037* (MICH, holotype); steep mountainsides now becoming leafless, 2 miles north of San Cristóbal de la Barranca, tropical deciduous forest, with *Acacia*, *Alvaradoa*, *Bauhinia*, elev. 950 m, 11 Nov 1962, *McVaugh 22141* (MICH); steep rocky hills near the mines north of Bolaños, east of the Río de Bolaños, in disturbed deciduous forest dominated by *Croton alamosanus*, *Acacia farnesiana*, and arborescent *Ipomoea*, elev. ca 1000 m, 18–19 Jan 1975, *McVaugh 25852* (MICH).

NAYARIT: Mountains 10 miles southeast of Ahuacatlán, on the road to Barranca del Oro and Amatlán, precipitous rocky south-facing slopes, elev. 1100–1300 m, 17–18 Nov 1959, *McVaugh & Koelz 728* (MICH).

This species belongs to a large group of which *Ipomoea microsticta* and *I. tuxtensis* are typical. Species of this group can be readily recognized by their concave, coriaceous sepals, their corollas not twisted in bud, and their seeds long-pubescent on the dorsal margins only.

Ipomoea noctulifolia McPherson, sp. nov.

Fig. 5.

Ab aliis speciebus foliis bilobis et late dentatis facile distinguenda.

Prostrate trailing vine up to 2 m long from a woody, irregular rootstalk. Stems up to 3 mm in diameter, ridged, coarsely pubescent, the hairs straight, stiff, mostly ascending, 0.5–1.5 mm long from a conspicuously swollen basal cell. Leaf blades round to somewhat flattened in general outline, truncate or cordate at the base, prominently bilobed, the midrib 1.5–10 mm long, extending into the short, acute leaf apex, the lobes 0.8–3 cm long, 0.8–2.2 cm wide, each bearing 4–6 veins and, along the distal margin, 2–5 broad teeth, the upper surface glabrous or sparsely coarse-pubescent, the lower surface sparsely coarse-pubescent at least along the midrib and on proximal portions of the main veins; petioles 0.6–1.8 cm long, coarsely pubescent. Inflorescences axillary, 1-flowered. Peduncles 1–22 mm long, wrinkled, coarsely pubescent, occasionally partly fused with the petiole of the subtending leaf, often distally thickened and bearing supernumerary bracts (remnants of a cymose inflorescence). Bracts ovate, about 1 mm

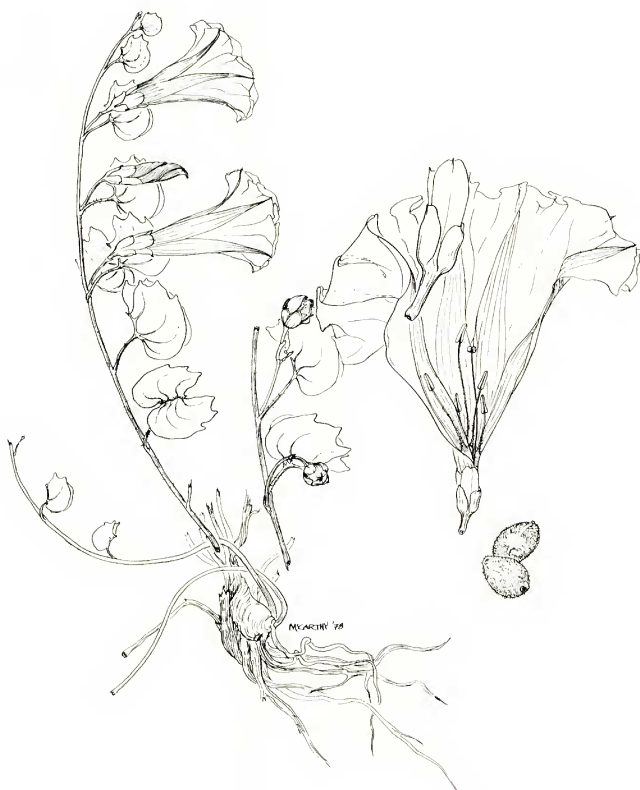


FIG. 5. *Ipomoea noctulifolia*, drawn from the type by Jan McCarthy. Rootstalk $\times 0.8$; flowering branch (corollas still expanding) $\times 0.7$; fruiting branch $\times 0.7$; opened flower $\times 1$; calyx $\times 3$; seeds $\times 2.5$.

long, 1 mm wide, carinate, glabrous. Pedicels 2–15 mm long, ridged, usually thickened distally, coarsely pubescent. Sepals ovate to elliptical, unequal (the outermost 2.0–4.0 mm long, 1–3 mm wide, the innermost 5.5–8.5 mm long, 3–4.5 mm wide), obtuse or obtuse-mucronate (rarely acute) at the apex, often somewhat asymmetrical, smooth to somewhat roughened and ridged, subcoriaceous with thinner margins, glabrous. Corolla funnelform, 5–7 cm long, 3–4 cm in diameter across the limb, purplish-red, sometimes white near the base of the tube and on the interplical areas, glabrous, twisted in bud.

Stamens included, 1.0–2.0 cm long, the anthers 3–3.5 mm long, the basal hairs about 0.75 mm long. Style 2.6–2.8 cm long, the stigmas 2, globose, 1 mm in diameter. Capsule 2-locular, 4-valved, the valves 7–10 mm long, the seeds 4, covered with soft hairs up to 0.75 mm long.

JALISCO: Gently sloping pastured hills near km 647, ca 5 road-miles south-west of Santa Cruz de las Flores, elev. 1550 m, 24 Aug 1957, *McVaugh 16308* (MICH, holotype); mountains north of Autlán, 3–5 miles above Mina San Francisco (Cia. Minera de Autlán), tropical deciduous forest zone with *Bursera*, *Ceiba*, *Ipomoea*, *Triumfetta*, elev. 1500–1650 m, 5 Oct 1960, *McVaugh 19931* (MICH); dry, shrub-covered slopes 9 miles south of Autlán toward La Resolana, 13 Aug 1949, *Wilbur & Wilbur 2309* (MICH).

This species belongs to a group of which *Ipomoea purga* is typical.



FIG. 6. *Ipomoea mcvaughii*, drawn from the type by Jan McCarthy. Flowering branch $\times 0.9$; opened corolla $\times 1$; calyces $\times 1.5$.

Ipomoea mcvaughii McPherson, sp. nov.

Fig. 6.

Ab aliis speciebus inflorescentiis aggregatis et subtentis foliis viridibus bracteis similibus distinguenda.

Woody vine. Young stems smooth, glabrous; older stems ridged, glabrous. Leaves various, the blades ovate, entire, typically 5–13 cm long, 3–8 cm wide, acuminate at the apex, cordate at the base, bearing 6–8 large veins on either side of the midrib, glabrous throughout or pubescent along the margin with stiff hairs up to 0.5 mm long; petioles 0.5–7 cm long, glabrous; first leaf, and sometimes the second, of each branch usually much smaller than adjacent leaves, sessile or subsessile (the petioles 0–2 mm long); leaves subtending flowers separated by short internodes (0–1.0 cm long), their blades 1.5–5 cm long, 1–3 cm wide, their petioles 0.5–4 mm long. Inflorescences axillary, each cyme consisting of 1–3 flowers, these cymes clustered in groups of 4–8 flowers at the ends of branches. Peduncles 0.5–1 mm long, glabrous. Bracts ovate to lanceolate, 1.5–3 mm long, about 0.75 mm wide, carinate, glabrous. Pedicels 3.5–4 mm long, ridged, thickened distally, glabrous. Sepals elliptical or obovate, unequal (the outermost 6.5–9 mm long, 2–2.5 mm wide, the innermost 11–13 mm long, 4.5–5.5 mm wide), acute or obtuse-mucronate at the apex, often somewhat asymmetrical, subcoriaceous, glabrous or more typically pubescent along the margin, the hairs up to 0.5 mm long. Corollas more or less funnelliform, 5–7.5 cm long, 1–1.5 cm in diameter at the base of the limb, 3–4 cm in diameter across the limb, pink with paler throat and interpalcal regions and white base, glabrous, twisted in bud. Stamens included, 3.5–4.5 cm long, the anthers 3–3.5 mm long, the basal hairs about 1 mm long. Style 4.5–5 cm long, the stigmas 2, globose, about 1 mm in diameter. Capsule unknown.

OAXACA: Steep slopes in pine forests, 5–6 km northeast of Putla, road to Tlaxiaco, elev. 850 m, 6 Feb 1965, *McVaugh 22268* (MICH, holotype).

This species, like *Ipomoea noctulifolia*, belongs to a group of which *I. purga* is typical, and is most nearly related to *I. bracteata* and *I. suffulta*, which also have inflorescences subtended by modified leaves.

Ipomoea perpartita McPherson, sp. nov.

Fig. 7.

Ab aliis speciebus pariter foliis palmatis gaudentibus combinatione foliorum lobis etiam centralibus in lobis minoribus denuo furcatis cum segmentis ultimis foliorum linearibus distinguenda.

Woody vine 2–3 m long. Young stems smooth, glabrous; older stems ridged, glabrous. Leaf blades round to somewhat flattened in general outline, 1–3 cm long, 2–3 cm wide, deeply palmately 5–7 lobed (the basal two lobes on one side of the leaf sometimes shortly joined proximally), the lobes themselves 1–1.5 cm long, 0.4–1.5 cm wide, each consisting of 3–9 linear segments 1–8 mm long, 0.3–0.6 mm wide, glabrous, and arranged more or less pinnately along the lobe axis; petioles 0.2–1.2 cm long, glabrous; pseudostipules, apparently the reduced leaves of tiny, axillary branches, sometimes present. Inflorescences axillary, each cyme consisting of 1–3 (–probably more) flowers. Primary peduncles 20–55 mm long, glabrous; secondary (more distal) peduncles 4–5 cm long, glabrous. Bracts ovate-lanceolate to elliptical, 1.5–3.0 mm long, 1–1.5 mm wide, acute or obtuse-mucronate at the apex, carinate, glabrous. Pedicels 8–12 mm long, ridged, usually thickened distally and often markedly thicker than the peduncle, glabrous. Sepals ovate-lanceolate to elliptical, unequal (the outermost 3.5–5.5 mm long, 2–2.5 mm wide, the innermost 6–7.5 mm long, 2–2.5 mm wide), acute to obtuse-mucronate (the mucro up to 0.5 mm long) at the apex, carinate and often basally roughened, subcoriaceous with thinner, often white margins, glabrous. Corolla funnelliform, 3–4 cm long, 2.5 cm in diameter across the limb, “white, purple in the tube, the 5 radiate lines violet outside” (collector’s notes), glabrous, twisted in bud. Stamens included, 1.3–1.9

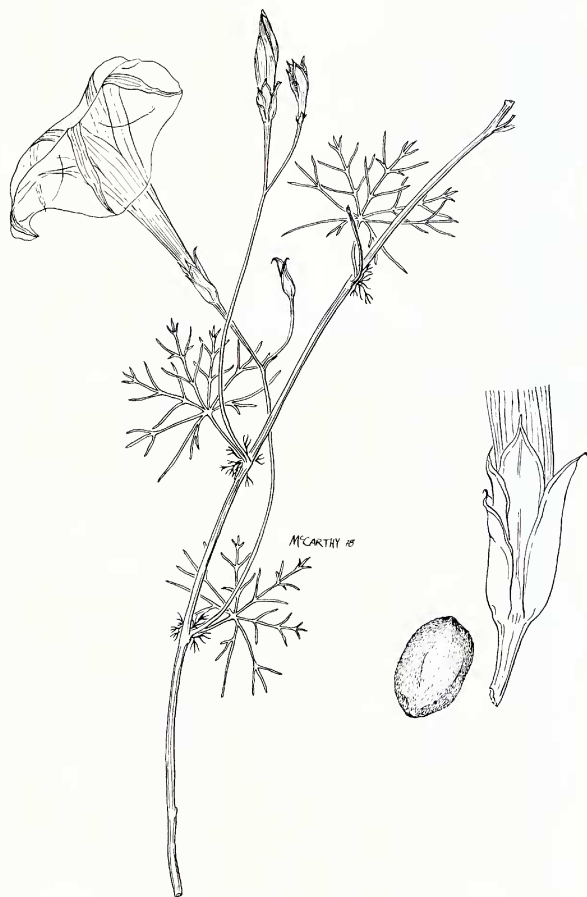


FIG. 7. *Ipomoea perpartita*, drawn from the type by Jan McCarthy. Flowering branch $\times 1.5$; calyx and seed $\times 6$.



FIG. 8. *Quamoclit fissifolia*, drawn from the type by Jan McCarthy. Flowering branch $\times 0.8$; fruit and seed $\times 2$.

cm long, the anthers 1–1.5 mm long, the basal hairs up to 0.5 mm long. Style about 3.5 cm long, the stigmas 2, globose, about 0.75 mm in diameter. Capsules 2-locular, 4-valved, the valves 6–7 mm long, the seeds 4, pubescent over the entire surface with hairs about 0.1 mm long.

JALISCO: Steep mountainsides 3–10 km generally east on the road to Mina del Cuale, from the junction 5 km northwest of El Tuito, Mpio. de Cabo Corrientes, pink-oak forest on decomposed granitic soils, with *Podocarpus*, oaks, and other deciduous trees in rocky stream valleys, elev. 850–1150 m, 16–19 Feb 1975, *McVaugh 26371* (MICH, holotype).

This species is obviously related to the long-recognized group of which *Ipomoea costellata* is typical.

Quamoclit fissifolia McPherson, sp. nov.

Fig. 8.

Ab aliis speciebus combinatione foliorum profunde divisorum cum pedunculis longis et inflorescentiis multifloris distinguenda.

Woody vine 4–6 m long, up to 1 cm thick at the base. Young stems smooth, glabrous; older stems ridged and wrinkled, glabrous. Leaves scattered along the stem or clustered on reduced branches as short as 1.3 mm; blades orbicular to oval in outline, 2–14 cm long, 2–14 cm wide, deeply palmately lobed (the sinuses extending to within 1.3–7.5 mm of the petiole apex), cordate at the base, the lobes (5–) 7–9 in number (the two basal lobes each bearing a smaller lateral lobe), entire, linear to narrowly ovate-lanceolate, 2–9 cm long, 0.1–1.4 cm wide with 7–10 lateral veins on each side of the central vein, glabrous; petioles 2.8–10.2 cm long, glabrous. Inflorescences erect, axillary, each cyme consisting of (5–) 10–40 flowers, the cymes modified so that the flowers (excepting the one terminating the primary peduncle) are borne on two rachises which arise from the apex of the primary peduncle and each of which resembles a scorpioid cyme. Primary peduncles 20–50 cm long, glabrous, the more distal peduncles 0.3–1.2 cm long, glabrous. Bracts triangular, subopposite, carinate, glabrous, unequal, that subtending the rachis 1–1.5 mm long excluding the awn (1–3.5 mm long), that subtending the pedicel 0.5–1.5 mm long including the mucro. Pedicels (28–) 30–45 mm long, grooved, slender, glabrous. Sepals round to somewhat flattened in outline, unequal, subterminally awned (the outermost 2.5–3.5 mm long excluding the stout 1–3 mm long awn, 2–3 mm wide, the innermost 4.5–6 mm long excluding the 2–5 mm long awn, 5–8 mm wide), obtuse or more usually deeply and often asymmetrically emarginate at the apex, concave, carinate, subcoriaceous with thinner, sometimes reddish margins, glabrous. Corolla more or less funnelliform but the tube curved and the corolla thus zygomorphic, the tube 2.5–3 cm long, 1.5–2.0 cm in diameter at the base of the limb, 2.5–3.5 cm in diameter across the limb, the lobes of the limb 0.9–1.2 cm long, 0.7–1.1 cm wide, their margins 1–2 mm wide, markedly thinner than the central region, the corolla “dark bronzy red to green with faint red tinge” (collector’s notes), glabrous, not twisted in bud. Stamens exserted, curved over the corolla mouth, 5–7 cm long, the anthers 6.5–8 mm long, the filaments glabrous. Style 5.5–7 cm long, the basal 2–3 mm persistent in fruit, the stigma 2-lobed, about 1.5 mm in diameter. Capsule 4-locular, 4-valved, the valves 8–10 mm long, the seeds 2–4, covered with extremely short appressed hairs.

MICHOACAN: Steep hillsides among shrubs and small trees, 15–16 km southeast of Aserradero Dos Aguas and nearly west of Aguillilla, on tumbled and eroded sharp-toothed limestone rocks, elev. 1400–1450 m, 25–26 Nov 1970, *McVaugh 24694* (MICH, holotype).

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